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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,175	04/09/2004	Toru Noguchi	101074.53980US	8408

25944 7590 10/18/2006

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EXAMINER
COLE, ELIZABETH M

ART UNIT	PAPER NUMBER
1771	

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/821,175	NOGUCHI ET AL.	
	Examiner	Art Unit	
	Elizabeth M. Cole	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 23-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10, 23-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 7/31/06
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-20, 23-26 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11, 36-38 of copending Application No. 11/134,292. Although the conflicting claims are not identical, they are not patentably distinct from each other because discloses a resin such as an elastomer having carbon nanofibers dispersed therein.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-10, 23-29 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 90/10296. WO '296 discloses a composite material comprising carbon nanofibers having a diameter of 3-5-70 nm which is dispersed in an elastomer. The elastomers are not disclosed as being crosslinked. See abstract and pages 17-18. The claimed elastomers comprise, for example nitrile rubber, natural rubber, butadiene styrene rubber, alpha olefin rubbers, etc., and therefore comprise an unsaturated bond or group and therefore, since the elastomers are the same as those claimed and the carbon fibers are the same as those claimed, the elastomer possessing the unsaturated bond would necessarily and inherently have the claimed affinity to the carbon nanofibers, and would also have molecular weights within the claimed range. WO '296 does not disclose the claimed spin-spin relaxation time of the network components as measured by the Hahn-echo method using pulsed NMR techniques, however, since the same materials are employed and the same results are obtained, it is reasonable to presume that the materials of WO '296 would have the claimed spin-spin relaxation time.

6. Claims 1-10, 23-29 are rejected under 35 U.S.C. 102b as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fisher et al, U.S. Patent No. 6,203,814. Fisher discloses a composite material comprising carbon nanofibers having a diameter of less than 0.5u, (col. 4, lines 45-46), which can be dispersed in an elastomer such as natural rubber, styrene-butadiene rubber or polybutadiene, (col. 7, lines 1-9). The elastomer is not disclosed as being crosslinked. Since the elastomers disclosed comprise an unsaturated bond or group, the elastomers would necessarily have the claimed affinity to the carbon nanofibers and the claimed molecular weights. Fisher discloses that there is an affinity between the nanofibers and the elastomers. See abstract. Fisher does not disclose the claimed spin-spin relaxation time of the network components as measured by the Hahn-echo method using pulsed NMR techniques, however, since the same materials are employed and the same results are obtained, it is reasonable to presume that the materials of Fisher would have the claimed spin-spin relaxation time.

7. Applicant's arguments filed 7/31/06 have been fully considered but they are not persuasive. With regard to the double patenting rejection, Applicant argues that the '292 application does not disclose elastomers. However, the '292 application claims thermoplastic resins and elastomers are a subset of thermoplastic resins and therefore the claims are of overlapping scope and the rejection is maintained.

8. With regard to the art rejections, Applicant argues that neither WO '296 nor Fischer disclose materials having the claimed spin-spin relaxation time or that the fibers

are homogeneously dispersed in the resin. However, both references teach dispersing the nanofibers in the elastomer and use the same materials, the burden is on the Applicant's to show that the prior art products are different than the claimed invention. The examiner is not in a position to perform testing on the claimed materials and prior art materials in order to determine whether the prior art products possess the claimed spin spin relaxation time, but since the same materials are used and the same structure is formed, there is a reasonable basis for presuming that the materials inherently possess the claimed spin spin relaxation time and for shifting the burden to show that this is not the case to the applicants.

9. Applicant argues that one of ordinary skill in the art would not expect the fibers to be uniformly dispersed since such fibers have the tendency to clump. However, Fisher teaches that employing the particular nanofibers disclosed in the reference facilitates the mixture of the nanofibers with the matrix, (see col. 7, lines 10-18). Similarly, WO '296 teaches at page 20, lines 1-6 that employing silane coupling agents improves the dispersion of the fibers in the elastomer. Further, it is noted that since the materials employed are the same it is reasonable to presume that the dispersing ability of the fibers in the claimed invention would be the same as the dispersing ability of the fibers in the prior art references.

10. The terminal disclaimers received are proper and have been recorded.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

Mr. Terrel Morris, the examiner's supervisor, may be reached at (571) 272-1478.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

Elizabeth M. Cole
Primary Examiner
Art Unit 1771

e.m.c